

AMENDMENT UNDER 37 C.F.R. § 1.116 AND
REQUEST FOR RECONSIDERATION
U.S. Application No. 09/401,293
Attorney Docket No. Q55778

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1-29. (canceled).

30. (currently amended): A microcomputer provided with a flash memory and having a self-programming function of rewriting a program stored in said flash memory, comprising:

a rewrite program area for storing a program for a rewriting processing procedure for said flash memory; and

a controller for forming a flag area locally in said flash memory when the rewriting program stored in external storage means or said rewrite program area is written into said flash memory, performing determination of completion of a plurality of stages of rewriting processing or determination of whether the plurality of stages are good or bad and rewrites recording results of the determination of completion of each stage or results of determination of whether each stage is good or bad into said flag areas a stage at a time,

wherein said rewriting processing is performed in accordance with said rewriting program, and said stages of rewriting processing comprise: erasure of the flag area; blank check of data area; and writing of data into said data area.

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31. (previously presented) A microcomputer provided with a flash memory according to claim 30, wherein said flash memory includes a plurality of blocks each of which is an erasable unit and includes said data area and said flag area, and said controller maps the data areas of the plurality of blocks to successive addresses.

32. (currently amended) A microcomputer provided with a flash memory and having a self-programming function of rewriting a program stored in said flash memory, comprising:

a rewrite program area for storing a program for a rewriting processing procedure for said flash memory;

a controller for forming a flag area locally in said flash memory when the rewriting program stored in external storage means or said rewrite program area is written into said flash memory, performing determination of completion of a plurality of stages of rewriting processing or determination of whether the plurality of stages are good or bad and recording results of the determination into said flag areas; and

said controller writing an expected value when rewriting is completed regularly into the flag area at the last stage of rewriting processing and changes said expected value at the first stage of rewriting processing,

wherein said rewriting processing is performed in accordance with said rewriting program, and said ~~stages of rewriting processing~~ comprise: erasure of the flag area; blank check of data area; and writing of data into said data area.

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33. (currently amended) A microcomputer provided with a flash memory and having a self-programming function of rewriting a program stored in said flash memory, comprising:

a rewrite program area for storing a program for a rewriting processing procedure for said flash memory;

rewriting means for forming a plurality of flag areas locally in said flash memory when the rewriting program stored in external storage means or said rewrite program area is written into said flash memory; and

a controller for performing determination of completion of a plurality of stages of rewriting processing or determination of whether the plurality of stages are good or bad and rewrites recording results of the determination of completion of each stage or results of determination of whether each stage is good or bad into said flag areas a stage at a time,

wherein said rewriting processing is performed in accordance with said rewriting program, and said stages of rewriting processing comprise: erasure of the flag area; blank check of data area; and writing of data into said data area.

34. (previously presented) A microcomputer provided with a flash memory according to claim 33, wherein said flash memory includes a plurality of blocks each of which is an erasable unit and includes said data area and said flag area, and said rewriting means maps the data areas of the plurality of blocks to successive addresses.

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35. (currently amended) A microcomputer provided with a flash memory and having a self-programming function of rewriting a program stored in said flash memory, comprising:

a rewrite program area for storing a program for a rewriting processing procedure for said flash memory;

rewriting means for forming a plurality of flag areas locally in said flash memory when the rewriting program stored in external storage means or said rewrite program area is written into said flash memory;

a controller for performing determination of completion of a plurality of stages of rewriting processing or determination of whether the plurality of stages are good or bad and rewrites recording results of the determination of completion of each stage or results of determination of whether each stage is good or bad into said flag areas a stage at a time; and

flag state notification means for comparing, when power supply is made available after the rewriting is completed, values read out from said flag areas with expected values for said flag areas stored in advance and notifying said controller of results of the comparison,

wherein said rewriting processing is performed in accordance with said rewriting program, and said stages of rewriting processing comprise: erasure of the flag areas; blank check of data area; and writing of data into said data area.

36. (currently amended) A microcomputer provided with a flash memory according to claim 35, wherein said flash memory includes a plurality of blocks each of which is an erasable

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unit and includes said data area and said flag areas, and said rewriting means maps the data areas of the plurality of blocks to successive addresses.

37. (currently amended) A flash memory used in rewriting a stored program, comprising:

a flag area for rewriting recording results of the determination of completion of each stage of a plurality of stages or results of determination of whether the each stage of the plurality of stages is good or bad a stage at a time,

wherein rewriting is performed in accordance with a rewriting program stored in the flash memory, and said stages comprise: erasure of the flag area; blank check of data area; and writing of data into said data area.

38. (currently amended) A flash memory used in rewriting a stored program, comprising:

a flag area for writing an expected value when rewriting is completed regularly into the flag area at the last stage of rewriting processing and changes said expected value at the first stage of rewriting processing,

wherein rewriting is performed in accordance with a rewriting program stored in the flash memory, and said rewriting processing comprise a plurality of stages including erasure of the flag area, blank check of data area, and writing of data into said data area.

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39. (currently amended) A method of storing a program into a flash memory of a microcomputer provided with said flash memory and having a self-programming function of rewriting the program stored in said flash memory, said method comprising:

forming a plurality of flag areas in said flash memory when a rewriting program is written into said flash memory;

determining completion of a plurality of stages of rewriting processing or determining whether the plurality of stages are good or bad; and

after results of the determination are made, rewriting recorded results of the determination of completion of each stage or results of determination of whether each stage is good or bad into said flag areas a step at a time,

wherein rewriting of the program is performed in accordance with said rewriting program, and said stages of ~~rewriting processing~~ comprise: erasure of the flag area; blank check of data area; and writing of data into said data area.